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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/815,111

03/31/2004

Larry Alan Lee

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04/07/2006

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EXAMINER

ASSOUAD, PATRICK J

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/815,111

Applicant(s)

LEE ET AL.

Examiner

Patrick J. Assouad

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-90 is/are pending in the application.
- 4a) Of the above claim(s) 49-90 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-16, 19-27, 30-43 and 45-48 is/are rejected.
- 7) ☒ Claim(s) 11, 17, 18, 28, 29 and 44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/29/06 have been fully considered but they are not persuasive. Applicant's main argument is the "real time" aspect of the claimed invention, and Applicant also characterizes Lovejoy et al. as being merely a "worker-specific" monitor.

2. Applicant is referred to at least the following passages of Lovejoy et al.:

In another aspect a geolocation system is provided which allows position data to be precisely correlated with exposure or environmental monitoring data. Via a two-way communication link, the exposure data can be requested from the monitor unit for real-time monitoring with geolocating by the host system. Such communication can also automatically be activated if a worker enters a sensitive area or is suddenly exposed to a high level of a toxic element so that other workers can be positioned and immediately notified about a hazardous condition at the site. (col. 3, lines 38-48)

The data download from the monitor may be a two-step process, where it is first transferred to local memory in the console. This would allow automated download of data to the centralized system via phone modem interface (or other) to be performed on a convenient schedule in order to handle large number of workers. The downloading of data could be programmed as the work environment dictates. In applications where the geolocating/real-time data transfer option is not implemented (see below), the base unit could be located near the work place exit and the download of data and analysis could be performed as the worker leaves his work place to allow for timely medical intervention or other important action. (col. 7, lines 37-49)

The positional capability combined with the flexibility of adapting the device to monitor for any given chemical (or combination of chemicals) allows this monitor to also serve as a highly sensitive security device. If the monitor is used as a security badge, a security monitoring station can be set up to monitor the whereabouts of each given worker combined with real-time monitoring for specific chemicals. Should a worker enter a restricted area as indicated by both his position and given chemical external cues, a warning signal could be sent to the worker or appropriate security measures triggered. In case the monitor is used as a permanent security badge, it may be modified to include more battery power and an inability by the user to turn some features off (such as the positioning feature). Furthermore the monitor may include an accelerometer (not shown) and other similar electronic features to ensure that the monitor is being worn. (col. 8, lines 30-48)

3. As to the "worker-specific" aspect of Lovejoy et al., we see that the monitor of Lovejoy et al. is indeed gathering real-time sensor and positional data of a worker; i.e. the "conditions" of the environment in which a worker resides in or is in proximity with, are being assessed and/or "correlated" over one or more "positions" as a worker moves in his work environment.

4. The objection to claim 29 is withdrawn; this claim has been properly amended.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

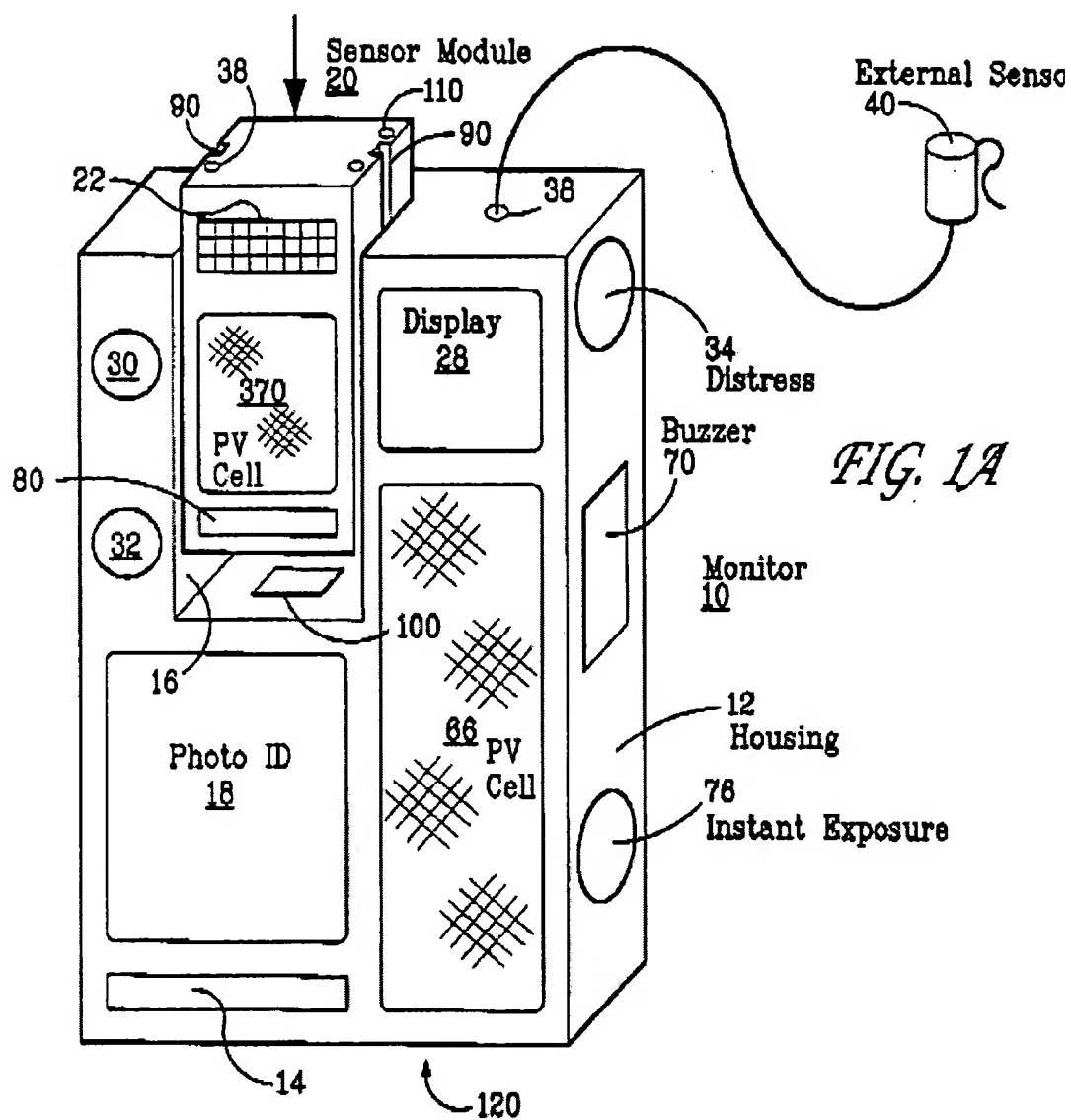
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1,3-10,12-16,19-22,24-27,30-35,37-43 and 45-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Lovejoy et al. (US Patent 6,031,454).

7. Lovejoy et al. disclose:

A person-specific monitor that provides sensor information regarding hazards to which the person is exposed and means to geolocate the person at the time of the exposure. The monitor also includes means to communicate with a remote base station. Information from the monitor can be downloaded at the base station for long term storage and analysis. The base station can also include means to recharge the monitor. (Abstract)

8. As per independent claims 1, 22 and 35, note that Figures 1A and 2 of Lovejoy et al. are reproduced below, and that: the claimed means for and step of “collecting real-time condition data...from at least one sensor at a particular location” is performed by the at least one sensor of a radiological, chemical or other toxic agent or a plurality of individual detectors, each of which is specific to a particular hazard found in a particular environment of Lovejoy et al., each collecting data in real-time; the claimed means for and step of “collecting real-time position data indicative of the location of the sensor” is the real-time geolocating means of Lovejoy et al. which may be a GPS system; the claimed means for and step of repeating the steps of collecting...at one or more locations” is the continual collecting of realtime position and exposure/environmental sensor data; and finally, the claimed means for and step of “correlating the collected real-time collected data indicative of conditions at the one or more locations over time” is the correlation of real-time position data with exposure or environmental data of Lovejoy et al. which includes “monitoring the ambient environment in which the worker is located” and “produc[ing] a record of the location of the worker at the time that worker was exposed to [a hazardous] agent” (claim 14) or “to convey warning information...to other monitors worn by other persons in [the] vicinity of the person experiencing the harzardous level.” (claim 17).



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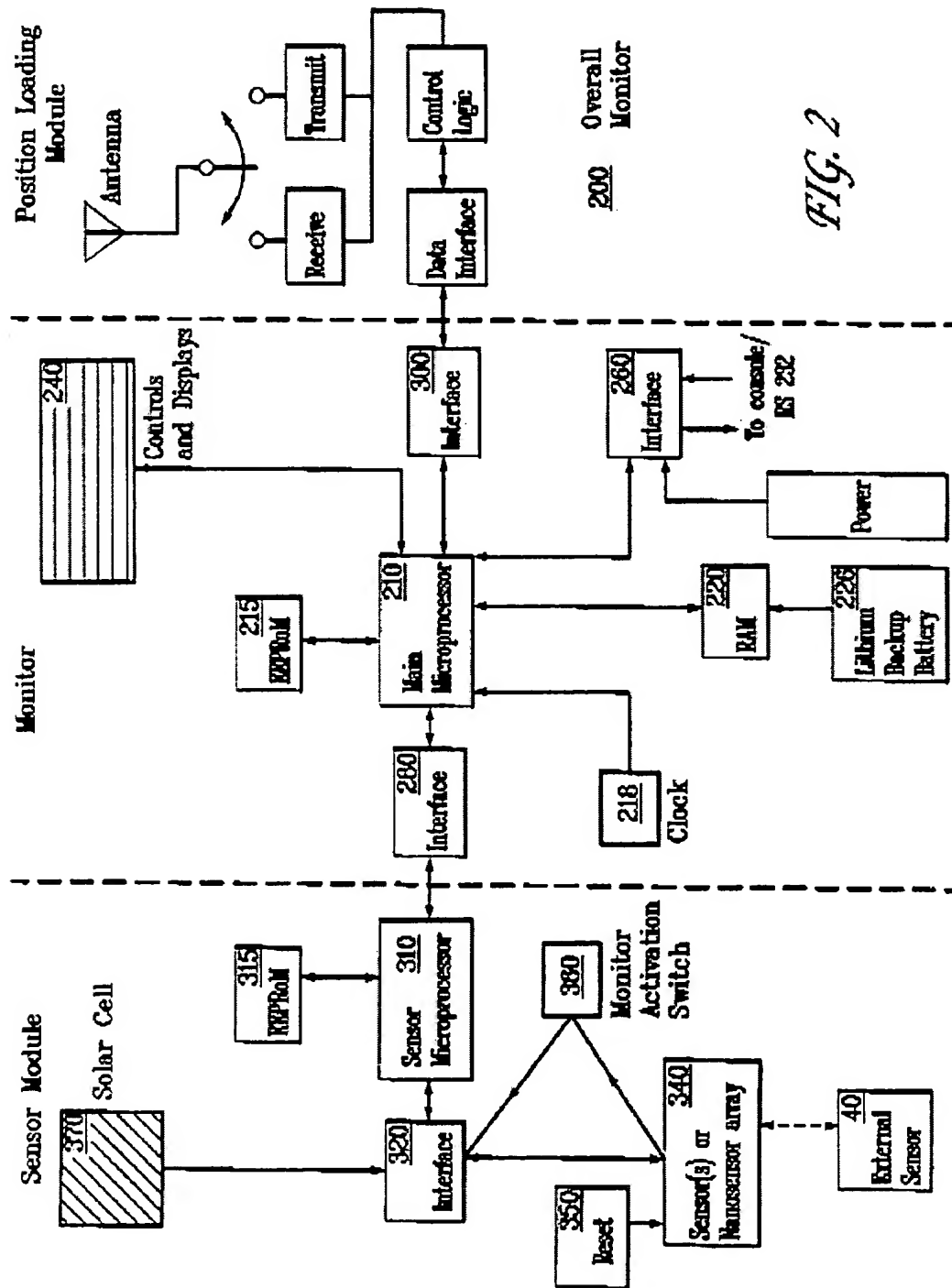


FIG. 2

9. As per dependent claims 3,15, 21, 24, 37, 48, “environmental” sensors or a “plurality of sensors” are discussed above and shown in at least the above reproduced Figures.

10. As per dependent claims 4,25 and 38, “exposure” has been addressed above.

11. As per dependent claims 5-9, 26, 39-42 which relate to “mapping sensor data...” and “determining...risks of hazardous conditions” and “activating an alarm”, see at least the calculations regarding cumulative overexposure, the calculations involved in monitoring the ambient environment in which the worker is located, the calculations involved in the audible means to warn a person if a toxic agent or hazardous level is reached, etc.

12. As per dependent claims 10, 43, which relate to a variety of selected data, note that all sensors/warning indicators much be adjusted for sensitivity/threshold levels/range etc.

13. As per dependent claims 16, 27, GPS sensing is addressed above.

14. As per dependent claims 19-20, 30-31, “logging” and/or “transmitting”, see at least the storage means/transmission means of either the worker’s monitor or the central management system of Lovejoy et al.

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15. As per dependent claim 21,32-34, wherein the “sensor is portable” or “wearable”, or the device includes a “rechargeable battery”, see at least the above Figures of Lovejoy et al.

16. As per dependent claims 12, 45, all GPS devices must use some form of “geographical information system software” in order to operate.

17. As per dependent claims 13-14, 46, 47, depictions of sensor values over time or at various locations, summaries of data, etc., must be performed by the computer system at the remote central management system of Lovejoy et al. because data must be relayed to management in order for management to monitor the ambient environment in which a worker is located and/or to initiate an alarm, and to ultimately manage a worker’s exposure to hazardous conditions over time.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 2,23 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lovejoy et al. (above) as applied to the parent claims as indicated above, and further in view of Appelt et al. (US 2004/0004547 A1).

20. Appelt et al. disclose :

A system and method are disclosed for identifying monitoring and evaluating hazardous or potentially hazardous conditions. The system may be worn by safety personnel to detect equipment conditions such as low power supply, environmental conditions such as ambient temperature and/or physiological conditions such as heart rate of a wearer. The system further includes a control unit having electronics operable to communicate signals associated with equipment, environmental and physiological conditions. (Abstract, with emphasis added)

21. As per dependent claims 2,23 and 36, see at least Figs. 11-12 of Appelt et al.

(reproduced below) and the following reproduced passages:

FIG. 11

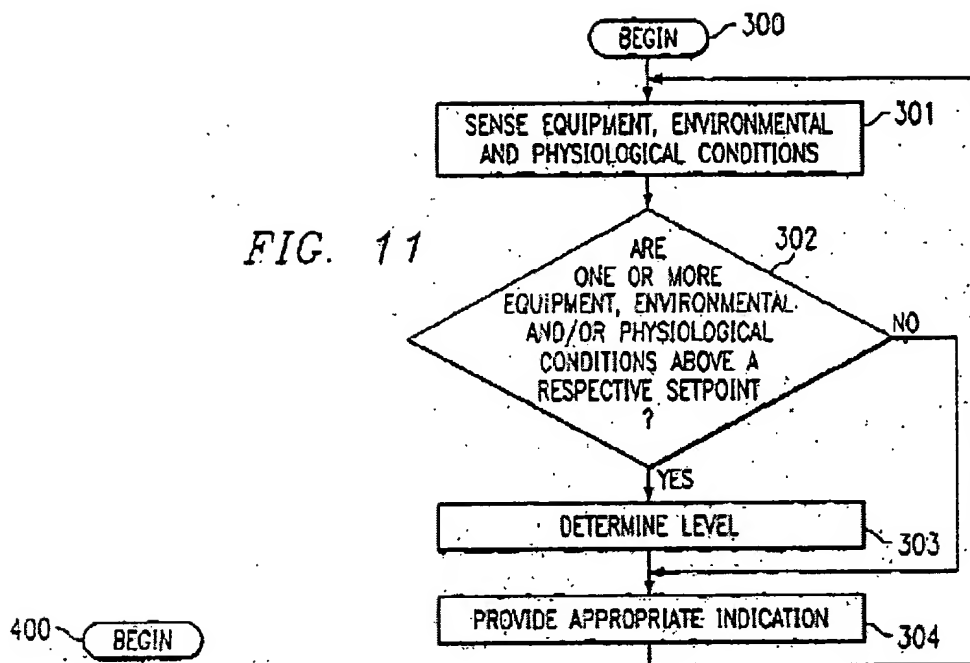
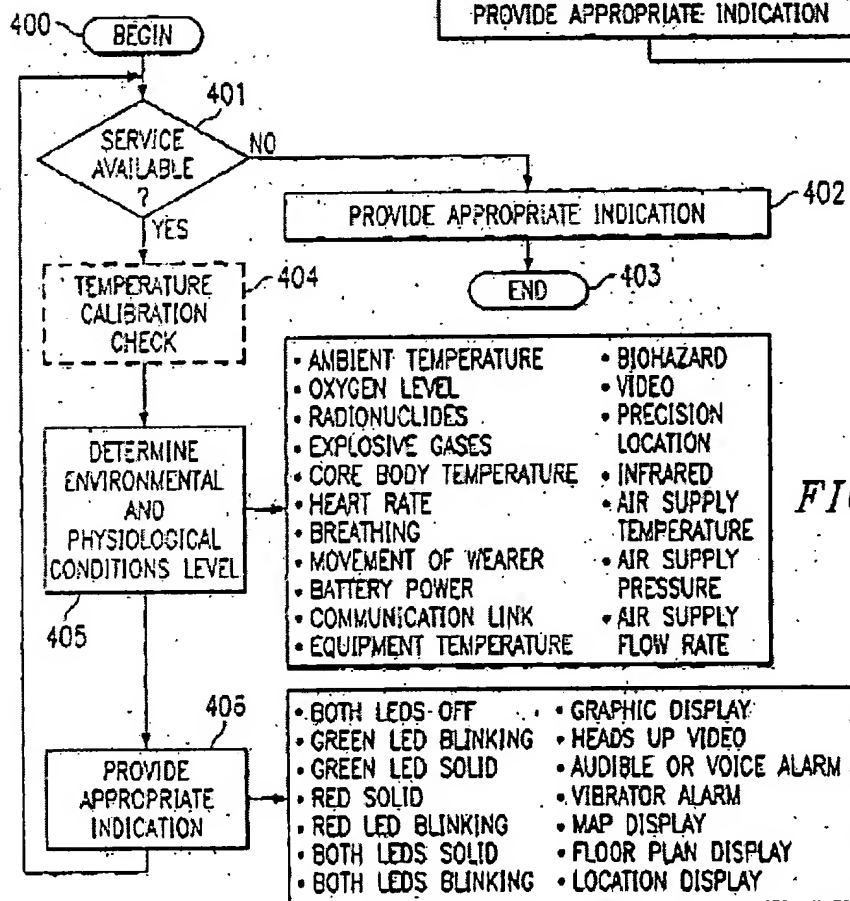


FIG. 12



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The present invention allows design, development and manufacture of personal situation awareness devices which may be used to prevent injury and/or death of personnel working in hazardous or potentially hazardous conditions. Personal situation awareness devices incorporating teachings of the present invention may be used to identify, monitor and evaluate physiological conditions of a wearer. Such personal situation awareness devices may also monitor variable relationships between environmental conditions and physiological conditions of the wearer. Such personal situation awareness devices may be used to collect data, interpret data and communicate with other individual wearers and/or with one or more remote locations. Such devices may analyze data and initiate appropriate alerts and warnings. (para. 11)

Equipment sensors 21 may be used to monitor and measure data related to equipment temperature, air supply temperature and/or pressure, air flow rates, battery power levels, status of communication links and/or any other data required to monitor and evaluate satisfactory performance of any equipment associated with a person wearing system 10. Environmental sensors 22 may be used to detect, identify and measure a variety of environmental conditions such as ambient air temperature, explosive gas concentrations, biological agent concentrations, radioactivity levels associated with one or more radionuclides and/or any other hazardous or potentially hazardous environmental condition. For some applications equipment sensors 21 may be included as part of environmental sensors 22. Physiological sensors 23 may be used to monitor various physiological conditions such as respiration rate, blood oxygen level, core body temperature, heart rate and/or any other physiological condition required to identify, monitor and evaluate the physiological condition of a person wearing system 10. Equipment sensor 21 and/or physiological sensor 23 may also be used to measure movement or lack of movement by a wearer and/or equipment associated with the wearer. For some applications, a global positioning system or other location sensor (not expressly shown) may be coupled with microprocessor 12 and/or comparator circuit 24. (para. 48)

System 10 may record an exposure history for post-event analysis and for training personnel. For example, ambient air temperature in a fire fighting environment may be recorded at specified time intervals to give firefighters or other safety personnel an idea of temperature profiles during training or while working within a structure fire or other hazardous site. System 10 may include global positions system (GPS) devices or other equipment to determine location and "map" temperature gradients or other potentially hazardous conditions within a site. Recorded data may be placed in an on-board random access memory (not expressly shown) or other digital data recorder. Recorded data, including position information, may be used to improve supervision of firefighters and other safety personnel and to provide better training for such personnel. System 10 allows better standardization of policies, practices and procedures with respect to personnel working in hazardous or potentially hazardous conditions. (para. 52)

22. Therefore, it would have been to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Appelt et al. into the exposure monitor of Lovejoy et al. because such a combination provides the means to link or correlate current and past health conditions of a user to various current and past critical hazardous environmental conditions.

Allowable Subject Matter

23. Claims 11, 17-18, 28-29, and 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

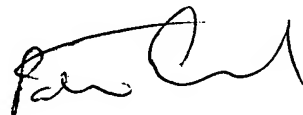
24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Assouad whose telephone number is 571-272-2210. The examiner can normally be reached on Tuesday-Friday, 6:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patrick J Assouad
Primary Examiner
Art Unit 2857

pja